

WAVELENGTH REFERENCE FILTER

ABSTRACT

A wavelength reference filter for receiving an input signal and producing a filtered output signal is provided. The operation of the filter is independent of the angle of incidence of the input signal. As a result, the output signal from the filter will maintain its wavelength, even under changes in the direction of propagation of the input signal to the filter. Without such incidence angle independence, a change to the input signal would change the output signal and result in inaccurate device operation. Example incidence angle independent filters may include a single etalon or multiple etalons. In the former example, a signal may traverse a single etalon twice, along paths that have different angular sensitivities relative to the etalon. In the latter example, each etalon may have an equal and opposite angular sensitivity, such that two the etalons have canceling angular sensitivities. All of the filters described and illustrated may be used in various devices, including detectors, laser sources (tunable and otherwise), and transponders.